In the Claims:

Claim 1 (currently amended):

1. A method for making a series of nanoscale microstructures comprising the steps of:

(1) forming a chiral block copolymer containing a ~~plurality of~~ first polymer ~~blocks~~ block of first polymers and a ~~plurality of~~ second polymer ~~blocks~~ block of second polymers, wherein at least said first polymer ~~blocks are~~ is a chiral polymer ~~blocks~~ exhibiting chirality, and said first and second polymer blocks are capable of being subject to a micro-phase separation and said first ~~polymer blocks~~ polymers have a volume fraction ranging from 10 to 90%;

(2) causing a microphase separation in said chiral block copolymer;

wherein said first polymer is poly(L-lactide) and said second polymer is selected from the group consisting of polystyrene and pol(4-vinylpyridine), further wherein said chiral block copolymer is poly(styrene)-poly(L-lactide) (PS-PLLA) chiral block copolymer when said second polymer is polystyrene and poly(4-vinylpyridine)-poly(L-lactide) (P4VP-PLLA) chiral block copolymer when said second polymer is pol(4-vinylpyridine).

Claim 2 (original):

2. The method for making a series of nanoscale microstructures according to claim 1, wherein said chiral block copolymer is poly(styrene)-poly(L-lactide) (PS-PLLA) chiral block copolymer, said first polymer is poly(L-lactide), and said second polymer is polystyrene.

Claim 3 (original):

3. The method for making a series of nanoscale microstructures according to claim 1, wherein said chiral block copolymer is poly(4-vinylpyridine)-poly(L-lactide) (P4VP-PLLA) chiral block copolymer, said first polymer is poly(L-lactide), and said second polymer is pol(4-

vinylpyridine).

Claim 4 (currently amended):

4. The method for making a series of nanoscale microstructures according to claim 1, wherein said first ~~polymer blocks~~ polymers have a volume fraction ranging from about 20% to about 49%.

Claim 5 (original):

5. The method for making a series of nanoscale microstructures according to claim 1, wherein said nanoscale microstructures are a series of helical microstructures.

Claim 6 (original):

6. The method for making a series of nanoscale microstructures according to claim 1, wherein said nanoscale microstructures are a series of cylindrical microstructures each with a hexagonal crosssection.

Claim 7 (previously presented):

7. The method for making a series of nanoscale microstructures according to claim 1, wherein said poly(styrene)-poly(L-lactide) (PS-PLLA) chiral block copolymer is prepared using a polymerization process comprising the following steps:

(1) mixing styrene with BPO and 4-OH-TEMPO to form 4-hydroxy-TEMPO-terminated polystyrene; and

(2) mixing said 4-hydroxy-TEMPO-terminated polystyrene with L-lactide in an organic solvent to form said poly(styrene)-poly(L-lactide) chiral block copolymer.

Claim 8 (original):

8. The method for making a series of nanoscale microstructures according to claim 7, wherein

said polymerization process is a living polymerization in which monomers are sequentially added to a polymerization mixture.

Claim 9 (previously presented):

9. The method for making a series of nanoscale microstructures according to claim 1, wherein said phase separation of said chiral block copolymer is achieved through crystallization.

Claim 10 (currently amended):

10. An object containing a series of repeating nanoscale microstructures formed in a substrate; ~~said objected being~~ which is formed using a process comprising the steps of:

(1) forming a chiral block copolymer containing a ~~plurality of~~ first polymer ~~blocks~~ block of first polymers and a ~~plurality of~~ second polymer ~~blocks~~ block of second polymers, wherein at least said first ~~polymer blocks are~~ polymer is a chiral polymer ~~blocks~~ exhibiting chirality, and said first and second polymer blocks are capable of being subject to a micro-phase separation and said first ~~polymer blocks~~ polymers have a volume fraction ranging from 10 to 90%;

(2) causing a microphase separation in said chiral block copolymer;

wherein said first polymer is poly(L-lactide) and said second polymer is selected from the group consisting of polystyrene and pol(4-vinylpyridine), further wherein said chiral block copolymer is poly(styrene)-poly(L-lactide) (PS-PLLA) chiral block copolymer when said second polymer is polystyrene and poly(4-vinylpyridine)-poly(L-lactide) (P4VP-PLLA) chiral block copolymer when said second polymer is pol(4-vinylpyridine).

Claim 11 (currently amended):

11. The object according to claim 10, wherein said block copolymer is a poly(styrene)-poly(L-lactide) chiral block copolymer, and said first polymer ~~blocks are~~ is poly(L-lactide) ~~blocks~~

and said second polymer ~~blocks are~~ is polystyrene ~~blocks~~.

Claim 12 (currently amended):

12. The object according to claim 10 wherein said block copolymer is a poly(4-vinylpyridine)-poly(L-lactide) chiral block copolymer, and said first polymer ~~blocks are~~ is poly(L-lactide) ~~blocks~~ and said second polymer ~~blocks are~~ is poly(4-vinylpyridine) ~~blocks~~.

Claim 13 (currently amended):

13. The object according to claim 10 wherein said first ~~polymer blocks~~ polymers have a volume fraction ranging from about 20% to about 49%.

Claim 14 (previously presented):

14. The object according to claim 10 wherein said nanoscale microstructures are a series of helical microstructures.

Claim 15 (previously presented):

15. The object according to claim 10 wherein said nanoscale microstructures are a series of cylindrical microstructures each with a hexagonal crossection.

Claim 16 (previously presented):

16. The object according to claim 10, wherein said poly(styrene)-poly(L-lactide) (PS-PLLA) chiral block copolymer is prepared using a polymerization process comprising the following steps:

(1) mixing styrene with BPO and 4-OH-TEMPO to form 4-hydroxy-TEMPO-terminated polystyrene; and

(2) mixing said 4-hydroxy-TEMPO-terminated polystyrene with L-lactide in an organic solvent to form said poly(styrene)-poly(L-lactide) chiral block copolymer.

Claim 17 (previously presented):

17. The object according to claim 16 wherein said polymerization process is a living polymerization in which monomers are sequentially added to a polymerization mixture.

Claim 18 (previously presented):

18. The object according to claim 10 wherein said phase separation of said chiral block copolymer is achieved through crystallization.

Claim 19 (canceled):

19. A nanoscale process comprising the steps of:

(1) obtaining an object, said object contains a series of nanoscale microstructures;

(2) wherein said nanoscale microstructures are formed using a process containing the following steps:

(A) forming a block copolymer containing a plurality of first polymer blocks and a plurality of second polymer blocks, wherein said first polymer blocks are chiral blocks, wherein said first polymer blocks have a volume fraction ranging from 20 to 49%;

(B) causing a phase separation in said block copolymer.

Claim 20 (canceled):

20. The nanoscale process according to claim 19, wherein said block copolymer is a poly(styrene)-poly(L-lactide) chiral block copolymer, and said first polymer blocks are poly(L-lactide) blocks and said second polymer blocks are polystyrene blocks.

Claim 21 (canceled):

21. A method for making a series of nanoscale microstructures comprising the steps of:

(1) forming a chiral block copolymer containing a plurality of first polymer blocks of first polymers and a plurality of second polymer blocks of second polymers, wherein at least said first polymer blocks are chiral polymer blocks exhibiting chirality, and said first and second polymer blocks are capable of being subject to a micro-phase separation and said first polymer blocks have a volume fraction ranging from 10 to 90%;

(2) causing a microphase separation in said chiral block copolymer to self-assemble into a series of nanohelical microstructures.

Claim 22 (canceled):

22. A method for making a series of nanoscale microstructures as claimed in Claim 22 wherein said first polymer is poly(L-lactide).